



Two instances of inter-generic mating by Lycaenidae (Lepidoptera) in Maharashtra, India

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Abstract. Two instances of inter-generic pairing by Lycaenids are reported, the first instance between *Castalius rosimon* and *Talicada nyseus* and the second between *Chilades parthasius* and *Zizina otis*. Both instances were recorded from the same Indian village in the state of Maharashtra within a period of 2 months.

Key words: Inter-generic mating, Lycaenidae.

INTRODUCTION

Our concept of biological species is largely based on the concept of reproductive isolation. Therein, it is proposed that the pairing of opposite sexes of different species cannot produce fertile offspring, while members of the same species from distant locations, while differing superficially in response to climate and other local factors, can reproduce and produce fertile offspring.

Examples of interspecific, intergeneric or even interfamilial mating are rather rare in nature. Wright (1906) estimated this at roughly 1 in 140 pairings among North American butterflies, while Downey (1962) re-interpreted Wright's data and suggested a frequency of 1 in 70 pairings. At present, our understanding of the subject suggests that such behavior is aberrant and more or less constitutes the exception that proves the rule.

The only example of successful interspecific pairing in Asian Lepidoptera is between the closely related *Antheraea roylei* Moore 1859 and *A. pernyi* Guérin-Ménéville 1855 (Saturniidae) in China. The resulting hybrid, named *Antheraea x proylei* Jolly 1973 is used in commercial production of Tussah (Tasar) Silk. However, it has been proposed that *Antheraea roylei* is merely a sub-species of *Antheraea pernyi*, in which case the resultant fertile hybrid is perfectly logical.

We are unaware of any reports of such pairings observed in Indian butterflies. There is an example of an inter-generic courtship reported by Smetacek (2005) from the Kumaon Himalaya. Downey (1962) suggested that mating patterns may not be equally fixed throughout the range of a species so that some species may have fewer inter-specific mating barriers in some areas as compared to other areas.

MATERIALS AND METHODS

The present paper brings to notice two instances of inter-generic Lycaenid pairing observed near the town of Satara, Maharashtra. Both were photographed and the specimens involved were not taken.

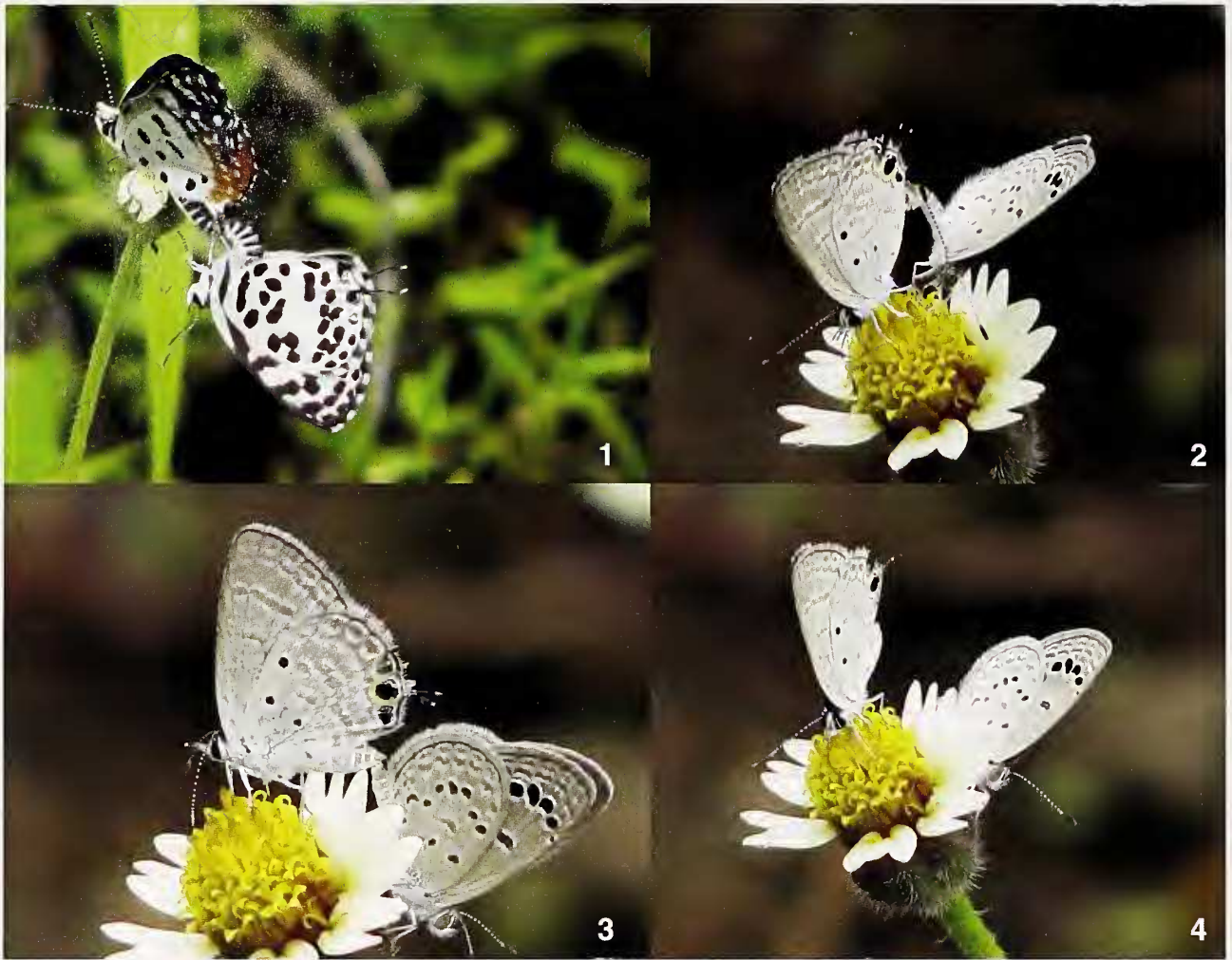
The first (Figure 1) was between a male *Castalius rosimon* Fabricius 1775 (Common Pierrot) which mated with a freshly emerged female *Talicada nyseus* Guérin-Ménéville 1843 (Red Pierrot) before the female's wings had even dried. The event was observed by MB at 15.50 hrs Indian Standard Time on 30 July 2008 at Darre Budruk (= Dare Bk), a village near Satara (latitude 17° 68' 33" N longitude 73° 98' 33" E) in Maharashtra, India. The pairing was observed

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Figures 1-4. 1. A male *Castalius rosimon* mates with a *Talicada nyseus* female. 2. *Chilades parrhasius* mates with *Zizina otis*. 3. *Chilades parrhasius* and *Zizina otis* mating. 4. Mated *Chilades parrhasius* and *Zizina otis* after separation.

and photographed for about 2 minutes after which the pair flew away and were lost to observation.

The second instance of inter-generic mating was between a *Chilades parrhasius* Fabricius 1793 (Small Cupid) and *Zizina otis* Fabricius 1787 (Lesser Grass Blue) (Figures 2, 3 and 4). It was noted on 06 September 2008 at 15.15 IST at Darre Budruk, a village near Satara town in Maharashtra, India. The mating was observed for about 4 minutes and the pair separated later.

In both cases, courtship was not observed, since the first sighting was when the butterflies were already paired.

DISCUSSION

In the literature on North American Lepidoptera,

there are examples of hybridization between closely related Nymphalid species (Arbogast, 1976; Platt *et al.*, 1978; etc.); Papilionid species (Wagner, 1978) and Pierid species (Downey, 1962; Priestaf, 1974). In this context, Wynter-Blyth (1957) mentions a possible natural hybrid of *Papilio polymnestor* Cramer 1775 and *Papilio memnon* Linnaeus 1758, named *P. memnon* form *polymnestoroides* Moore 1902, from Bengal, where the two species occur together. In the Indian Lycaenidae, it has been suggested that *Heliophorus hybrida* Tyler 1912 is a hybrid between *Heliophorus brahma* Moore 1857 and *H. androcles* Westwood [1851] (Evans, 1932). These are congeneric examples and inter-generic pairings appear not to have been reported so far.

While one of the authors (MB) observed two instances of inter-generic pairing within a period of 2 months, the other author (PS) has not observed such

inter-specific or inter-generic pairing in over 30 years of field observation mainly in the Western Himalaya, which lends support to Downey's (1962) suggestion that such pairings are commoner in some areas than in others.

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